REMARKS

Favorable reconsideration and allowance of this application are requested.

By way of the amendment instructions above, claim 1 has been further revised so as to emphasize that the claimed hyrophobic-coated substrated comprises at least three elements – these being, (1) a substrate, (2) a silicon oxide anchor layer on the substrate, and (3) a hydrophobic coating layer covering a surface of said anchor layer. In addition, claim 1 has been revised so as to clarify that it is the anchor layer – *not* the entire "coating" – which exhibits the recited root mean square (RMS) surface roughness.

The applicants' further consideration of the applied references of record, particularly the applied Foresi et al, in light of the Examiner's comments in the latest Official Action revealed that a RMS of less than about 6.0 nm in accordance with the present invention need not be surrendered in order to establish patentability over the applied art of record. Hence, a RMS upper limit of about 6.0 nm has been reinstated in the amended version of claim 1 presented herewith, while new claim 71 is a re-presentation of former claim 2 directed to a RMS of less than about 5.0 nm. New claim 72, on the other hand, defines the RMS surface roughness range of the silicon dioxide anchor layer as between about 4.0 nm to about 6.0 nm (see page 7, lines 6-8 of the originally filed specification for support).

Claims 10 and 13 have each been revised so as to be dependent from the amended version of claim 1 thereby rendering moot the Examiner's rejections advanced thereagainst under 35 USC §§102(b) and (e) from Hirai et al, Kon et al and Newsham et al as stated in paragraphs 2, 3 and 5 of the official action.

Claim 73 is new and essentially defines the invention as comprising a substrate, a silicon oxide anchor layer on said substrate, and a hydrophobic coating layer covering

a surface of the anchor layer. The anchor layer is specified to exhibit a root mean square surface roughness of greater than about 4.0 nm and less than about 6.0 nm, and the hydrophobic coating layer is specified to be a humidified vapor-deposited reaction product of at least one alkylchlorosilane which is selected from the group consisting of dimethyldichlorosilane (DMDCS), methylchlorosilane (MCS) and trimethylchlorosilane (TMCS). Claims 74-79 dependent from new claim 72 are based on many claims submitted for original examination.

Hence, claims 1, 3-20, 55-63 and 71-79 are now pending herein for which favorable reconsideration is requested.

The only issue remaining to be resolved in this application is the alleged anticipation of prior claims 1 and 3 under 35 USC §102(e) based on the Foresi et al reference. Applicants suggest that Foresi et al is inappropriate as a reference against the present invention.

In this regard, applicants note that the cited Foresi et al reference discloses polycrystalline semiconductor waveguides for optoelectronic integrated circuits. While it is true that silicon dioxide is disclosed as a layer on a substrate, it is equally true that the silicon dioxide layer is disclosed as an optoelectronic cladding layer. Moreover, the layer deposited onto the silicon dioxide layer is *not* a hydrophobic layer but instead is a polycrystalline semiconductor layer. Moreover, it is this polycrystalline semiconductor layer, and ***not*** the silicon dioxide cladding layer, which is required to have a root mean square (RMS) surface roughness of less than about 6 nm. (See column 2, lines 61-65, and column 4, lines 6-8.) A further cladding layer, e.g., of silicon dioxide, may then be applied onto the "smooth" surface (i.e., RMS surface roughness < 6 nm) of the polycrystalline semiconductor layer so that optical signals are confined to, and propagate completely within, the polycrystalline semiconductor layer. (See column 4, lines 16-26.)

Thus, it is quite clear that the applied Foresi et al reference cannot possibly anticipate (35 USC §§102(b) and/or (e)) the present invention as defined, for example, by amended claim 1 presented herewith since Foresi et al does not disclose either a hydrophobic coating layer applied onto a silicon dioxide layer or that the silicon dioxide layer must exhibit the required RMS surface roughness of less than about 6 nm. Instead, Foresi et al discloses that it is the polycrystalline semiconductor layer – not the silicon dioxide layer -- which has the RMS surface roughness of less than 6 nm, and that another silicon dioxide cladding layer – not a hydrophobic layer – is applied onto the polycrystalline semiconductor layer.

Nor can Foresi et al reasonably be considered to render "obvious" the present invention under 35 USC §103(a). In this regard, the discussion above is equally germane to the reasons why the present invention is ***un***obvious over Foresi et al. Specifically, Foresi et al neither discloses nor reasonably suggests that a hydrophobic coating layer may applied onto a silicon dioxide anchor layer or that the silicon dioxide anchor layer must exhibit the required RMS surface roughness of less than about 6 nm. Instead, as noted above, according to Foresi et al, a silicon dioxide cladding layer is applied onto a polycrystalline semiconductor layer – not a silicon dioxide anchor layer -- having a RMS surface roughness of less than 6 nm layer, and another silicon dioxide cladding layer– not a hydrophobic layer – is applied onto the polycrystalline semiconductor layer.

Foresi et al is also in an art which is disparately nonanalogous to the present invention and, as such, is inappropriate for use as a reference when making patentability determinations under 35 USC §103(a). [1] Two criteria are employed to determine whether a reference is from nonanalogous art: (1) whether the art is from the

[1] "Although §103 does not, by its terms define the 'art to which [the] subject matter [sought to be patented] pertains,' this determination is frequently couched in terms of whether the art is analogous or not, i.e., whether the art is 'too remote to be treated as prior art.'" *In re Clay*, 23 USPQ2nd 1058, 1060 (Fed. Cir. 1992) *citing In re Sovish*, 226 USPQ 771,, 773 (Fed. Cir. 1985).

same field of endeavor, regardless of the problem addressed; and if not, (2) whether the reference reasonably pertains to the particular problems with which the inventor is involved.[2]

Here, it is quite clear that the first of the two criteria is not met since the filed of endeavors of Foresi et al and that of the present applicants is not even remotely similar let alone the same – i.e., polycrystalline semiconductor optoelectronic waveguides in Foresi et al vs. hydrophobic surface coatings (e.g., automotive window glass) in the present invention.

Moreover, the problems encountered by Foresi et al and the present applicants are completely *not* pertinent at all to one another. That is, the problem encountered in Foresi was to provide optoelectronic integrated circuits which are compatible with conventional processing techniques and provide for relatively low-loss optoelectronic interconnects. (Column 2, lines 27-32). On the other hand, the problems encountered by the present applicants included providing a hydrophobic coating that was highly durable so as to withstand repeated physical abrasions (e.g., as occurs when wiper blades are employed against a surface of automotive window glass).

As a result, therefore, neither of the legal criterion is met thereby making it abundantly clear that the cited Foresi et al reference is from nonanalogous art, and as such, is inappropriate for use in a rejection advanced under 35 USC §103(a).

Withdrawal of the art-based rejections of record and early passage of this application to issue is requested. In this regard, every effort has been made to advance prosecution of this application to allowance and thus official notice to that effect is solicited.

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[2] *Id.* at 1060. *See also, Union Carbide Corp. v. American Can Co.*, 220 USPQ 584, 588-589 (Fed. Cir. 1984).

However, in the event that certain small matters remain outstanding, the Examiner is encouraged to telephone the applicants' undersigned attorney so that the same may be resolved without the need for an additional written action and reply.

Respectfully submitted,

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